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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/05/2001

Blake Wilson

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EXAMINER

MACKOWEY, ANTHONY M

ART UNIT

PAPER NUMBER

2623

DATE MAILED: 11/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/972,167	Applicant(s) WILSON, BLAKE	
	Examiner Anthony Mackowey	Art Unit 2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/05/2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/04/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "440" has been used to designate both steps "Remove Textual Strings" and "Scale Image" in Figure 4. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 8 and 20-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 8, it is unclear whether the step disclosed in this claim is intended to further limit the last step of claims 1 or is an additional step in a method for geographically

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referencing an improvement image. It appears that the image as disclosed in the last line of claim 1 refers to an improvement image as this is the only image disclosed in this family of claims, thus making the difference between the last step of claim 1 and the step of claim 8 unclear.

Regarding claim 20, it is unclear whether the step disclosed in this claim is intended to further limit the last step of claim 11 or is an additional step in a method for converting an improvement image to a geographically referenced image. It is unclear if the image referred to be the improvement image or the geographically referenced image.

Similarly in claim 22, it is unclear if the scale factor of the image referred to in line 10 is the improvement image scale factor or the composite image scale factor. It appears that it would refer to the scale factor of the composite image as the scale factor for the improvement image is disclosed in line 13 of claim 22.

It is suggested that the applicant more clearly specify which images claims 1 (line 8), 11 (line 8) and claim 22 (line 10) refer to.

Claims not mentioned specifically depend from indefinite claims.

Claim Rejections - 35 USC § 103

Claims 1-3, 6-9, 11-13 and 16-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,414,462 to Veatch in view of U.S. Patent 4,220,994 to Hendrickson and U.S. Patent 6,266,452 to McGuire.

As to claim 1, Veatch discloses a method for geographically referencing an improvement image comprising the steps of:

extracting image positions of at least two image reference points, the reference points depicting features that each have a known geographic position (col. 4, lines 32-56) and interpreting geographic positions for the features (col. 4, lines 37-40).

Veatch does not disclose computing a geographic distance between the features or determining a geographic direction between the features. However, Hendrickson discloses a device performing the steps of computing a geographic distance between features and determining a geographic direction between features (col. 7, lines 32-45).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method disclosed by Veatch to include the steps computing a geographic distance between features and determining geographic direction between the features as taught by Hendrickson. The motivation for combining their teachings is derived from the fact that the results of these steps are useful in calculations and actions performed in later steps (i.e. scaling, translating, and rotating), which are disclosed by Veatch.

Also, Veatch does not disclose the step of obtaining a scale factor of the image. Veatch discloses scaling of the image (col. 5, lines 15-17) but is silent with regard to obtaining the scale factor. However, McGuire discloses the step of finding the scale factor in an image registration method (col. 7, lines 54-65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method disclosed by Veatch to include the step of obtaining a scale factor as taught by McGuire. One of ordinary skill in the art would have been motivated to combine these teachings because Veatch performs the scaling of the image, implying a scale factor and it would allow appropriate scaling to a particular or desired amount.

Veatch further discloses the step of displaying said improvement image (col. 3, lines 65-68; col. 4, lines 61-65; Fig. 6).

As to claim 3, Veatch further discloses the step of marking at least two reference points on the improvement image with information indicating geographic position (Fig. 6, geographic positions marked along lot boundaries).

As to claim 6, Veatch does not disclose the step of determining an improvement image reference translation. Veatch discloses translating the image (col. 5, lines 15-17) but is silent with regard to determining the improvement image reference translation. However, McGuire does disclose the step of determining the image translation (col. 5, lines 25-41).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method disclosed by Veatch to include the step of determining the improvement image reference translation. One of ordinary skill in the art would have been motivated to combine these teachings because the reference translation would provide appropriate translation of the image. Appropriate translation ensures the highest correlation when the improvement image is combined with other images or information.

As to claim 7, Veatch, Hendrickson and McGuire disclose all the limitations of claim 1. Veatch does not disclose the step of determining an improvement image rotation angle. Veatch discloses rotating the image (col. 5, line 15-17) but is silent with regard to determining the rotation angle. However, McGuire does disclose the step of determining an image rotation angle (col. 10, lines 60-63).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method disclosed by Veatch to include the step of determining an

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improvement image rotation angle as disclosed by McGuire. One would have been motivated to combine their teachings because it would be advantageous to know by what amount an image is to be rotated during rotation. Appropriate rotation ensures the highest correlation when the image is combined with other images and information.

With regard to claim 8, arguments analogous to those presented above for claim 1 concerning improvement image scale factor are applicable to claim 8.

As to claim 9, Veatch further discloses the step of expressing the geographic positions in latitude and longitude (col. 5, lines 5-12)

With regard to claim 11, arguments analogous to those presented above for claim 1 are applicable to claim 11.

As to claim 12, Veatch further discloses the step of displaying said geographically referenced image (col. 3, lines 65-68; col. 5, lines 12-15). Veatch does not specifically state that the image is displayed, however, Veatch discloses that the GIS system in which all steps are performed contains a display unit. It would have been obvious to one of ordinary skill in the art at the time the invention was made to display the geographically referenced image on the display unit disclosed by Veatch. A motivation for displaying the image would be to visually verify that all calculations and information consistent with the geographically referenced image are correct.

As to claim 13, Veatch further discloses the step of marking at least two reference points on the improvement image with information indicating geographic position (Fig. 6, geographic positions marked along lot boundaries).

With regard to claims 16 and 17, arguments analogous to those presented above for claim 6 are applicable to claims 16 and 17.

With regard to claims 18 and 19, arguments analogous to those presented above for claim 7 are applicable to claims 18 and 19.

With regard to claims 20 and 21, arguments analogous to those presented above for claim 1 concerning improvement image scale factor are applicable to claims 20 and 21.

As to claim 22, Veatch discloses a method for combining an improvement image with geographically referenced information to produce a composite image (col. 1, lines 50-65), the method comprising the steps of:

extracting an image position for each of at least two image reference points, the reference points depicting features that each have a known geographic position (col. 4, lines 32-56), interpreting a geographic position for each of the features (col. 4, lines 37-40), and creating an output (col. 5, lines 20-23).

Veatch does not disclose computing a geographic distance between the features or determining a geographic direction between the features. Please refer to the discussion of claim 1 for arguments concerning the steps of computing a geographic distance between features and determining a geographic direction between features.

Also, Veatch does not disclose the step of obtaining a scale factor of the image. Please refer to the discussion of claim 1 for arguments concerning the step of obtaining a scale factor of the image.

Veatch does not disclose the step of determining an improvement image reference translation. Please refer to the discussion of claim 1 for arguments concerning the step of determining the improvement image reference translation.

Veatch does not disclose the step of determining an improvement image rotation angle. Refer to the discussion of claim 7 for arguments concerning the step of determining an improvement image rotation angle.

As to claim 23, Veatch further discloses the step of displaying said composite image (col. 5, lines 22-23).

As to claims 24-26, an output containing the improvement image reference translation, rotation angle and scale factor is inherent to the production and display of the composite image as taught in the combined teachings. In order to effectively correlate the improvement image with the other geographically referenced information the processor must properly translate, rotate and scale the improvement image before combination. In order to perform these manipulations the processor would need the respective values obtained from the reference translation, rotation angle and scale factor determining steps previously conducted by the processor, thus an output of the processor containing these values is implied as it would have been needed for manipulation of the improvement image. The displayed composite image contains the translated, rotated and scaled improvement image combined with other geographical referenced information, also implying that it has been created from an output of the processor which contained the improvement image reference translation, rotation angle and scale factor.

As to claim 27, Veatch further discloses the step of creating a composite image based on said output (col. 5, lines 20-23). Veatch discloses printing a hard copy of the composite image. Veatch does not specifically state that the composite image is based on an output, however, it is obvious that the input the printer requires to create this hard copy is an output of the GIS system (col. 3, lines 59-68 and col. 4, lines 1-12).

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As to claim 28, Veatch discloses a system for geographically referencing an improvement image, the system comprising a memory storage device in communication with a processor (col. 3, lines 59-68 and col. 4, lines 1-12), the memory storage device configured to store an improvement image (col. 4, lines 65-66). With regard to the remainder of this claim, arguments analogous to those presented above for claim 1 are applicable to claim 28.

With regard claim 29, arguments analogous to those presented above for claim 28 are applicable to claim 29.

As to claim 30, Veatch discloses a system for combining an improvement image with geographically referenced information, the system comprising a memory storage device in communication with a processor (col. 3, lines 59-68 and col. 4, lines 1-12), the memory storage device configured to store the improvement image (col. 4, lines 65-66) and the geographically referenced information (col. 4, lines 32-45). With regard to the remainder of this claim, arguments analogous to those presented above for claim 22 are applicable to claim 30.

Claims 4,5,14, and 15 rejected under 35 U.S.C. 103(a) as being unpatentable over Veatch, Hendrickson, and McGuire as applied to claim 1 and 11 above, and further in view of U.S Patent 3,748,644 to Tisdale.

As to claims 4 and 14, Veatch, Hendrickson, and McGuire disclose all the limitations of claims 1 and 11 but do not disclose the step of determining an image position for each of the reference points. However, Tisdale discloses assigning coordinates to chosen image points in the registration of points in two separate images (col. 2, lines 67-68).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method disclosed by Veatch to include the step of determining an image

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position for each of the reference points as taught by Tisdale. Motivation for combining their teachings is derived from the fact that the result of this step would be useful in calculations and actions performed in later steps (i.e. scaling, translating, and rotating), which are disclosed by Veatch.

As to claims 5 and 15, Veatch, Hendrickson, and McGuire disclose all the limitations of claims 1 and 11 but do not disclose the step of determining an image direction between the reference points. However, Tisdale discloses determining the orientation of an imaginary line between image points in the registration of points in two separate images (col. 3, lines 1-2, 55-60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method disclosed by Veatch to include the step of determining an image direction between the reference points as taught by Tisdale. Motivation for combining their teachings is derived from the fact that the result of this step would be useful in calculations and actions performed in later steps (i.e. determining rotation angle), which are disclosed by Veatch.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Veatch, Hendrickson and McGuire as applied to claim 1 above, and further in view of U.S. Patent 4,491,724 to Murray. Veatch, Hendrickson and McGuire do not disclose the step of expressing the geographic distance in nautical miles. However, Murray does disclose using the nautical mile scale to express distance in the disclosed course and heading computer.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the methods disclosed by Veatch, Hendrickson and McGuire to include the step of expressing the geographic distance in nautical miles. One of ordinary skill in the art

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would have been motivated to do this because it would allow incorporation of this method into the navigation system of an airplane or boat where use of nautical miles is common and the curvature of the earth must be accounted for in order to accurately navigate.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Mackowey whose telephone number is (703) 306-4086. The examiner can normally be reached on M-F 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703) 308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AM
10/22/2004


Jon Chang
Primary Examiner